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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/22/2004

Seock-Hwan Kang

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EXAMINER

SANEI, HANA ASMAT

ART UNIT

PAPER NUMBER

2879

MAIL DATE

DELIVERY MODE

07/10/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/805,923

Applicant(s)

KANG ET AL.

Examiner

Hana A. Sanei

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 April 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

The Amendment, filed on 4/30/07, has been entered and acknowledged by the Examiner.

Claims 1-35 are pending in the instant application.

Priority

Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Claim Objections

Claim 8 is objected to because of the following informalities: The term "the sealing layer" lacks proper antecedent basis.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-13, 29-33, 35 are rejected under 35 U.S.C. 102(b) as being anticipated by Winsor (US 5466990).

Regarding Claim 1, Winsor teaches a first substrate (65, upper plate, see at least Figs. 4-5) through which light is output (64, "light 64 is emitted only out of the top of lamp 10," Col. 9, lines 4-6); a second substrate (66, lower plate) disposed to face the

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first substrate defining a planar space (planar plates, Col. 4, lines 25-29) therebetween, the planar space defined between the first and second substrates of the light source body being filled with a discharge gas (Ar, Hg, Col. 4, lines 51-56 & see also #12, chamber) to generate the light; and a voltage applying part (90, 91, refer now to Fig. 4, Col. 7, lines 12-13) to provide an electric signal to excite the discharge gas in the planar space; and a light diffusion part (74, "diffuser coating," Col. 9, lines 48-51 or 62, secondary chamber may also be a light diffuser, providing uniform light out of the lamp from a nonuniform light source, Col. 10, lines 48-51) to diffuse the light generated from the light source body (12, chamber with 30, 32, fluorescent layers) to output diffused light.

Regarding Claim 2, Winsor teaches that the light diffusion part (74) is integrally formed with the light source body defining a unitary single piece structure (that the diffuser coating, 74, of Winsor is a unitary single piece, the limitation of the claim is met).

Regarding Claim 3, Winsor teaches at least one partition (48, "walls," refer now to Fig. 4) disposed between the first (65) and second substrate (66), the space being regionally divided by the at least one partition; and a sealing member (18, 20, side walls) disposed between the first and second substrates to seal the space ("sealed enclosure of a pair of planar plates," Col. 4, lines 26-29).

Regarding Claim 4, Winsor teaches a sealing layer (glass layers, 26, refer now to Fig. 6) formed between the at least one partition (48) and the first substrate (65) so that

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the space is sealed at a contact area between the at least one partition and the first substrate.

Regarding Claim 5, Winsor teaches that a first sealing layer (26, glass layer) is formed between the sealing member (18) and the first substrate (65), and a second sealing layer (28, glass layer) is formed between the sealing member (18) and the second substrate (66).

Regarding Claim 6, Winsor teaches that the space (space between respective 48) is defined by surfaces of the first and second substrates (65-66), the at least one partition (48) and the sealing member (18, closest to the outer most partition 48), the surfaces are coated with a fluorescent layer (30, 32).

Regarding Claim 7, Winsor teaches the surfaces of the first and second substrates (65, 66) have areas in contact with the at least one partition (48) and remaining areas not in contact with the at least one partition (space between respective 48), the fluorescent layer (30, 32) being formed on the remaining areas of the surfaces of the first and second substrates.

Regarding Claim 8, Winsor teaches that the fluorescent layer (30, 32) is formed on the surfaces of the at least one partition (48) which include a surface in contact with the sealing layer. It should be noted that the claim language does not restrict that the fluorescent layer be formed on the part of the partition that is in *direct* contact with the sealing layer.

Regarding Claim 9, Winsor teaches a light reflecting layer ("a titanium-doped ceramic film may be applied on top of the plate 66 to reflect ultraviolet light back into the

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phosphor film 32, increasing the lamp's overall efficacy," Col. 9, lines 29-32) formed between the fluorescent layer (32) and the surfaces of the second substrate (66) and the least one partition (48, refer to Fig. 7).

Regarding Claim 10, Winsor teaches that the light-reflecting layer is made of material including aluminum oxide (Al₂O₃) or titanium oxide (TiO₂) (aluminum oxide, Col. 9, lines 32-35).

Regarding Claim 11, Winsor teaches that the at least one partition (48) includes two or more partitions having a substantially identical length smaller than a distance between opposite ends of the space in a longitudinal direction of the partitions (accounting for the serpentine arrangement of 48s, see Fig. 4).

Regarding Claim 12, Winsor teaches that the partitions (48) each have first and second end portions (opposing ends of 48) opposite to each other in the longitudinal direction, the partitions being in contact with the sealing member (48 is *indirectly* in contact with 18) such that the first end portions of odd-numbered ones of the partitions are in contact with the sealing member and the second end portions of even-numbered ones of the partitions are in contact with the sealing member to partition the space in a serpentine form (serpentine format of plurality of walls, 48, Fig. 4).

Regarding Claim 13, Winsor teaches that the partitions (48) are arranged in a direction substantially perpendicular to the longitudinal direction of the partitions and substantially parallel (same direction, Fig. 4) with each other (a part of cross-sectional adjacent walls *ends* 48 are perpendicular to other opposing adjacent 48).

Regarding Claim 29, Winsor teaches a display panel (see at least Figs. 4-5) to display the images; a surface light source (10) device to provide surface light to the display panel, the surface light source device including: a light source body (12, chamber) including: a first substrate (65, upper substrate) through which light is output (64); a second substrate (66, lower substrate) disposed to face the first substrate defining a planar space (planar plates, Col. 4, lines 25-29) therebetween, the planar space defined between the first and second substrates of the light source body being filled with a discharge gas (Ar, Hg, Col. 4, lines 51-56 & see also #12, chamber) to generate the light; and a voltage applying part (90, 91, refer now to Fig. 4, Col. 7, lines 12-13) to provide an electric signal to excite the discharge gas in the planar space; and a light diffusion part (74, "diffuser coating," Col. 9, lines 48-51 or 62, secondary chamber may also be a light diffuser, providing uniform light out of the lamp from a nonuniform light source, Col. 10, lines 48-51) to diffuse the light generated from the light source body to output diffused light, wherein the light diffusion part is integrally formed with the light source body (disposed on top of upper substrate, 65); and a receiving container (52) to receive and securely hold the display panel (upper substrate, 65) and the surface light source device (30, 32, fluorescent layer).

Regarding Claim 30, Winsor teaches at least one partition (48, "walls," refer now to Fig. 4) disposed between the first (65) and second substrate (66), the space being regionally divided by the at least one partition; and a sealing member (18, 20, side walls) disposed between the first and second substrates to seal the space ("sealed enclosure of a pair of planar plates," Col. 4, lines 26-29).

Regarding Claim 31, Winsor teaches a first sealing layer (middle-most portion of 26, glass layer) formed between the at least one partition (48) and the first substrate (65) so that the space is sealed at a contact area between the at least one partition and the first substrate; a second sealing layer (left and right end most portion of 26) formed between the sealing member (18, 12) and the first substrate (65); and a third sealing layer (28, glass layer) formed between the sealing member (18) and the second substrate (66).

Regarding Claim 32, Winsor teaches a fluorescent layer (30, 32) formed on surfaces of the first and second substrates, the at least one partition (48) and the sealing member (18) which define the space of the light source body.

Regarding Claim 33, Winsor teaches a light reflecting layer ("a titanium-doped ceramic film may be applied on top of the plate 66 to reflect ultraviolet light back into the phosphor film 32, increasing the lamp's overall efficacy," Col. 9, lines 29-32) formed between the fluorescent layer (32) and the surfaces of the second substrate (66) and the least one partition (48, refer to Fig. 7).

Regarding Claim 35, Winsor teaches that the light diffusion part (74) is integrally formed with the light source body defining a unitary single piece structure (that the diffuser coating, 74, of Winsor is a unitary single piece, the limitation of the claim is met).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 14-25, 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winsor (US 5466990) in view of Ohsawa et al (US 5939826).

Regarding Claim 14, Winsor teaches the invention set forth above (see rejection in Claim 1 above). Winsor is silent regarding the surface of the light diffusion part.

In the same field of endeavor of light sources with light diffusion parts, Ohsawa teaches a display device (see at least Fig. 2) having a light diffusion part (6, second face panel) including a light diffusion pattern (upper surface of 6) formed on the surface of the first substrate in order to control a direction of the output light thereof (Col. 8, lines 31-36).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to modify the light diffusion part, as disclosed by Ohsawa, in the device of Winsor in order to control a direction of the output light thereof (Col. 8, lines 31-36).

Regarding Claim 15, Winsor-Ohsawa teaches the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion pattern (upper surface of 6) including a plurality of convex surfaces successively formed on the second surface (see Fig. 8).

Regarding Claim 16, Winsor-Ohsawa teaches that the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion pattern including a plurality of convex members (upper surface of 6) formed on the second surface such that density of the convex members (areas with convex) is higher at a first area through which the light passes than at a second area (areas without convex) adjacent to the at least one partition.

Regarding Claim 17, Winsor-Ohsawa teaches that the convex members (6 of Ohsawa) at the first and second areas have a substantially identical size (same size, Fig. 8).

Regarding Claim 18, Winsor-Ohsawa teaches that the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion pattern including a plurality of convex members (Fig. 8) formed on the second surface such that the convex members have a larger size at an area adjacent to the at least one partition than at an area (areas with convex) through which the light passes.

Regarding Claim 19, Winsor-Ohsawa teaches that the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion pattern (6) including a plurality of convex surfaces successively formed on the first surface (Fig. 8).

Regarding Claim 20, Winsor-Ohsawa teaches that the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion pattern (6) including a plurality of convex surfaces successively formed on both the first and second surfaces (see Fig. 8).

Regarding Claim 21, Winsor-Ohsawa teaches that the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion pattern (6) including a plurality of V-shaped grooves successively formed on the second surface (Fig. 2).

Regarding Claim 22, Winsor-Ohsawa teaches that the V-shaped grooves each have a rough surface such that a plurality of convex surfaces successively formed on the surface of the respective V-shaped grooves (Fig. 8).

Regarding Claim 23, Winsor-Ohsawa teaches that the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion pattern (6) including a plurality of protrusion members discretely formed on the second surface, the protrusion members each having a cross-sectional view of a polygonal shape (Fig. 2).

Regarding Claim 24, Winsor-Ohsawa teaches that the first substrate (6 of Ohsawa) has first and second surfaces opposite to each other and the first surface is in contact with the space (cell S) and the at least one partition (2), the light diffusion

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pattern (6) including a plurality of grooves discretely formed on the second surface, the grooves each having a cross-sectional view of a polygonal shape (Fig. 2).

Regarding Claim 25, Winsor-Ohsawa teaches that the light diffusion part (6 of Ohsawa) includes a plurality of light diffusion members disposed on a surface of the first substrate through which the diffused light is output (Fig. 2). Motivation to combine would be the same as stated in the rejection of Claim 14.

Regarding Claim 34, Winsor-Ohsawa teaches that the light diffusion part (6 of Ohsawa) includes a light diffusion pattern formed on at least one surface of the first substrate to diffuse the light generated from the light source body (Fig. 2). Motivation to combine would be the same as stated in the rejection of Claim 14.

3. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Winsor (US 5466990) in view of Ohsawa et al (US 5939826) in further view of Nilsen et al (US 6258443 B1).

Regarding Claim 26, Winsor-Ohsawa teaches the invention set forth above (see rejection in Claim 25 above) and further teaches that the light diffusion members (6 of Ohsawa) have a substantially identical size. Winsor-Ohsawa fails to teach an adhesive formed between the light diffusion member and the first substrate.

In the same field of endeavor, Nilsen teaches an adhesive (sealing film in form of a adhesive layer, Col. 11, lines 40-45) is formed between the diffusion member (10', prism) and a substrate (substrate or backing layer 226) in order to ensure that the prism is sufficiently secured to the substrate (Col. 11, lines 43-45).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the adhesive, as disclosed by Nilsen, in the device of Winsor-Ohsawa in order to ensure that the prism is sufficiently secured to the substrate.

Regarding Claim 27, Winsor-Ohsawa teaches the invention set forth above (see rejection in Claim 25 above) and further teaches that the light diffusion members (6 of Ohsawa) have various sizes (Fig. 8). Winsor-Ohsawa fails to teach an adhesive formed between the light diffusion member and the first substrate.

In the same field of endeavor, Nilsen teaches an adhesive (sealing film in form of a adhesive layer, Col. 11, lines 40-45) is formed between the diffusion member (10', prism) and a substrate (substrate or backing layer 226) in order to ensure that the prism is sufficiently secured to the substrate (Col. 11, lines 43-45).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the adhesive, as disclosed by Nilsen, in the device of Winsor-Ohsawa in order to ensure that the prism is sufficiently secured to the substrate.

Regarding Claim 28, Winsor-Ohsawa teaches the invention set forth above (see rejection in Claim 25 above) and further teaches that the light diffusion members (6 of Ohsawa) have a substantially identical size. Winsor-Ohsawa fails to teach a binder formed between the light diffusion member and the first substrate.

In the same field of endeavor, Nilsen teaches a binder (sealing film in form of a adhesive layer, Col. 11, lines 40-45) is formed between the diffusion member (10', prism) and a substrate (substrate or backing layer 226) in order to ensure that the prism is sufficiently secured to the substrate (Col. 11, lines 43-45).

Therefore, it would have been obvious to one of ordinary skill in the art, at the time of the invention, to add the binder, as disclosed by Nilsen, in the device of Winsor-Ohsawa in order to ensure that the prism is sufficiently secured to the substrate.

Other Prior Art Cited

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

KR 10-20000065759 A to Kim et al

KR 10-20040004240 A to Park et al

JP 09-092208 A to Nakamura et al

US 6333600 B1 to Mizobata

US 6531817 B1 to Holtslag et al

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

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the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hana A. Sanei whose telephone number is (571)-272-8654. The examiner can normally be reached on Monday- Friday, 9 am - 5 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nimeshkumar D. Patel can be reached on (571) 272-2457. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hana A. Sanei
Examiner



Joseph Williams
Primary Examiner

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